



STATE OF UTAH  
NATURAL RESOURCES  
Oil, Gas & Mining

ACT/045/017  
75

Norman H. Bangerter, Governor  
Dee C. Hansen, Executive Director  
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

December 15, 1986

CERTIFIED RETURN RECEIPT REQUESTED  
P402 459 420

Mr. Glen M. Eurick  
Environmental and Occupational  
Health Coordinator  
Barrick Mercur Gold Mines, Inc.  
P.O. Box 838  
Tooele, Utah 84074

*Glen*  
Dear Mr. Eurick:

Re: Final Approval of MRP Revision, Mercur Canyon Project, Marion Hill, Golden Gate and Sacramento Pits, Barrick Mercur Gold Mines, Inc., ACT/045/017, Folder #5, Tooele County, Utah

The Division has completed the review of the reclamation surety forms provided by Barrick Mercur Gold Mines, Inc. on December 1, 1986. This was the only item which remained prior to our issuance of final approval for the permit revision referenced above. One condition will be integrated into this final approval as follows:

STIPULATION TO FINAL PERMIT APPROVAL:

Barrick Mercur Gold Mines, Inc. must agree in writing to provide the Division with the following financial information:

1. Barrick will provide a copy of the formal audited corporate financial statements for the calendar year ending December 31, 1986 within 120 days of January 1, 1987.

The Division will review the above information and any other related legal and financial materials requested, which may be determined pertinent to meeting self bonding qualifications.

The existing reclamation surety entitled, Self Bonding and Indemnity Agreement Permit No. ACT/045/013 in the amount of \$4,197,153 (1994 dollars), is hereby replaced by the updated Self Bonding and Indemnity Agreement Permit No. ACT/045/017 in the amount of \$6,657,000 (1999 dollars) as received December 1, 1986.

Page 2  
Mr. Glen Eurick  
ACT/045/017  
December 15, 1986

We sincerely appreciate Barrick's cooperation and patience in completing this permitting activity. Should questions or concerns remain, please contact me, D. Wayne Hedberg or Randy Harden of the permitting staff.

Sincerely,



L. P. Braxton  
Administrator  
Mineral Resource Development  
and Reclamation Program

DWH:djh  
Enclosure(s)  
cc: K. May  
R. Harden  
W. Hedberg  
S. Linner  
8946R/49

DIVISION OF OIL, GAS AND MINING  
DEPARTMENT OF NATURAL RESOURCES  
IN AND FOR THE STATE OF UTAH

---00000---

IN THE MATTER OF TENTATIVE	:	NOTICE OF TENTATIVE
APPROVAL OF THE REVISION TO	:	APPROVAL
THE MINING AND RECLAMATION	:	NO. ACT/045/017
PLAN SUBMITTED BY BARRICK		
MERCUR GOLD MINES, INC.		
TOOELE COUNTY, UTAH		

---00000---

THE STATE OF UTAH TO ALL OPERATORS, TAKERS OF PRODUCTION, MINERAL AND ROYALTY OWNERS, AND PARTICULARLY ALL PERSONS INTERESTED IN SECTIONS 5, 6, 7, and 8, TOWNSHIP 6 SOUTH, RANGE 3 WEST, SLBM; AND SECTION 32, TOWNSHIP 5 SOUTH, RANGE 3 WEST, SLBM, TOOELE COUNTY, UTAH.

Notice is hereby given that tentative approval was given by the Division of Oil, Gas and Mining, on October 15, 1986 to Barrick Mercur Gold Mines, Inc., to revise their originally approved surface mining operation to include three (3) new strip mine pits at their Mercur Canyon minesite.

The name of the revision to the mining operation is the Mercur Canyon Project Expansion, Marion Hill, Golden Gate and Sacramento Pits. The Marion Hill, Golden Gate and the Sacramento pits will disturb portions of Sections 5, 6, 7 and 8, T6S, R3W, and a new Meadow Canyon Reservoir will impact a portion of Section 32, T5S, R3W, SLBM. The person representing the company is Mr. Glen M. Eurick, Environmental and Occupational Health Coordinator, Barrick Mercur Gold Mines, Inc. P.O. Box 838, Tooele, Utah 84074.

Barrick Mercur Gold Mines, Inc. has fulfilled obligations under the Utah Mined Land Reclamation Act of 1975 (Section 40-8, UCA 1953 as amended) with specific reference to Section 40-8-18 and will employ the following mining and reclamation techniques on approximately 451 additional disturbed acres of private and publically owned land. Of this total, @ 97 acres have been previously disturbed by past mining operations. Upon final approval, the total permitted surface disturbance for the minesite will equal 1135 acres.

During Operations:

1. Barrick will develop and operate three additional open pit gold mines in conjunction with their existing mill in Mercur Canyon. Existing permitted facilities include: the Mercur Mine and Mill, waste rock dumps, tailings pond, #1 and #2 dump leach pads, roads, transmission line, waterline, fences and security buildings.

Proposed disturbance includes: The mine pits, waste dump areas, topsoil storage sites, haul and access roads, dump leach pads, sediment ponds, surface drainage control dams, impoundments and diversions. All proposed disturbance will be limited to locations where Barrick has surface and mineral rights.

2. Topsoil stripping will be done within the mine pits, waste rock dumps and dump leach pad areas. Topsoil storage will be adjacent to the pits and dumps. Erosion control measures will be implemented to minimize topsoil losses.
3. Planned diversions and sediment ponds are sized to function as no-discharge impoundments. No off-site water discharges are anticipated from the operation under design conditions.
4. No major aquifers were encountered during extensive exploratory drilling periods. Minor amounts of perched water are expected and limited water may be intercepted if abandoned underground working are encountered. No toxic material zones were identified during the drilling program.
5. Existing mine and mill facilities will be used to process the ore. Sub-ore will be processed in the dump leach operations. Development and production of the first mine pit will coincide with the exhaustion of ore in the Mercur Mine pit. Pits two and three will follow this development sequence.
6. Development waste from the proposed pits will be placed in Meadow Canyon. The fill has been designed to serve as a water supply reservoir. Water will be used for dust suppression on mine and access roads and as a supply for local wildlife.
7. Some areas of mine disturbance will be reclaimed prior to final closure of the minesite.

Following Operations:

The operator will implement the following reclamation plan upon termination of all mining activities associated with the Mercur Canyon Project:

1. The county road will be retained for public use following mine closure.
2. Salvageable equipment will be dismantled and sold, surface structures will be razed, foundations, parking and driving surfaces will be broken up, removed and/or buried. Disturbed areas will be stabilized, regraded, and sloped to conform with the surrounding site topography.

3. Results from ongoing test plot revegetation programs will be used to fine tune the final revegetation program. Disturbed areas will be reclaimed with native and introduced vegetative species best suited to the elevation and climate during the fall season.
4. Standard agronomic practices will be used to prepare the seedbed for drill, broadcast, or hydro-seeding. Appropriate rates of fertilizer and mulch will be applied based upon plant and soil needs.

Any person or agency aggrieved by this tentative decision is hereby requested to submit written protest within thirty (30) days of the date of publication to the Division of Oil, Gas and Mining, 355 W. North Temple, 3 Triad Center, Suite 350, Salt Lake City, Utah 84180-1203, setting forth factual reasons for his or her complaint, and thereafter, at a time and place to be established, appear before the Board of Oil, Gas and Mining to show cause, if any, why this mine plan should not be approved.

DATED this 16th day of October, 1986.

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING

---

Marjorie L. Anderson  
Administrative Assistant

8946R-69-71



BARRICK MERCUR GOLD MINES, INC.  
MERCUR CANYON PROJECT EXPANSION  
MARION HILL, GOLDEN GATE AND SACRAMENTO PITS  
EXECUTIVE SUMMARY - REVISION TO EXISTING PERMIT  
December 4, 1986

Mine Name: Mercur Canyon Mine  
Project Expansion, Marion Hill, Golden  
Gate & Sacramento Pits

I. D. No.: ACT/045/015

County: \_\_\_\_\_

Operator: Barrick Mercur Gold Mines, Inc  
P.O. Box 838  
Tooele, Utah 84074

New/Existing: New Revision  
to Existing Mine

Mineral Ownership: Fed/State/  
Barrick/Private

Surface Ownership: Fed/State/  
Barrick/Private

Lease No(s): Not Listed

Permit Term: @ 19 years  
(life of mine)

Telephone: 801-268-4447

Contact Person: Mr. Glen Eurick

Life of Mine: @ 19 years

Legal Description: (of revision) Portions of Sections 5, 6, 7 & 8, T6S, R3W,  
and Section 32, T5S, R3W, SLBM.

Mineral(s) to be Mined: gold ore, silver and associated precious metals

Mining Methods: open pit strip mining (drill/blast, shovel & truck)

Acres to be Disturbed: 461 Acres (proposed), @ 97 Acres previously disturbed

Present Land Use: wildlife habitat, livestock grazing, recreation, mining

Postmining Land Use: same as above

Variances from Reclamation Standards (Rule M-10) Granted: M-10(3) Impoundments  
M-10(5) Highwalls Pads, M-10(7) Roads and Pads \*(See Attachmt. for details)

Soils and Geology:

Soil Description: 6 principal soils series: Acord Variant clay loam; Ant Flat  
Variant loam; Bezzant Variant loamy clay; Manila Variant loamy clay; St.  
Marys Variant soil; Toehead Variant soil; and Mined Land & the Slickens  
mapping units

pH: varies from 6.9 - 8.2

Special Handling Problems: moderate erosion hazard; on relatively steep  
topography a down slope recovery method of topsoil removal will be used.

Geology Description: Mercur district located east flank northwesterly trending  
anticlinal structure, south end Oquirrh Mts. Marine carbonate sediments  
are host to hydrothermal gold mineralization. Host rocks are Mississippian  
age, thin bedded, silty, carbonaceous, bioclastic, wackestones and pack-  
stones, silty carbonaceous mudstones and calcareous siltstones & finegrain  
sandstones overlain by silty, carbonaceous shales. Great Blue Limestone,  
Manning Shale, fanglomerate, terrace deposits, debris flow, colluvium and  
alluvium (oldest to youngest units).

Hydrology:

Ground Water Description: No significant aquifers encountered during the extensive exploratory drilling, minor amts. perched water expected to seep into pits (shale aquicludes). Some limited entrapped surface waters may be intercepted if abandoned underground workings are intercepted. Attempts to develop groundwater source for operations have failed. Secondary permeability of limestones quite variable depending on local fracture frequency. Increased recharge to exposed rocks in pit bottom expected from runoff.

Surface Water Description: Headwaters of Mercur Canyon which is principally an ephemeral drainage. Precipitation values typically low and high evapotranspiration rates. Runoff from Mercur Canyon generally low due to high infiltration into alluvial slopes at canyon mouth. Limited H2O quality & flow data available. TDS averages 500 mg/l, TSS exceeds several thousand mg/l.

Water Monitoring Plan: A groundwater monitoring plan has been approved by the Division of Environmental Health to monitor potential impacts to the local groundwater regime from the cyanide heap leach pads. Current Monitoring of tailings pond H2O quality will also continue. Surface H2O drainage control structures: diversions, sediment ponds, berms, culverts, dams and impoundments will be used to minimize offsite impacts to hydrologic regime.

Ecology:

Vegetation Type(s); Dominant Species: 3 major vegetative communities: Pinyon-Juniper Woodland; Mixed Brush (gambel oak, Utah serviceberry, mtn. mahogany & big sagebrush); Bottomland-Disturbed (rabbitbrush, big sage, russian thistle, perrerrweed, nettles, forbs & grasses).

Percent Surrounding Vegetative Cover: P-J Woodland (20%), Mixed Brush (69%), Bottomland-Disturbed (77.5%) based on 1985 transects.

Wildlife Concerns: Barrick has removed trees along the highway ROW at critical to improve visibility and decrease instance of deer-vehical collisions. If this fails to reduce road kills on Highway 73, operator will consider installation of reflecting devices. Meadow Canyon Reservoir will serve as a freshwater source for wildlife and livestock.

Surface Facilities: Barrick will utilize existing mine & mill facilities to process new ore. New facilities include: 3 new strip pits, waste dumps, topsoil storage sites, haul/access roads, dump leach pads, sediment ponds, Meadow Canyon Reservoir, diversions, associated drainage control structures

Mining and Reclamation Plan Summary: see attached summary

Surety:

Amount: \$6,657,000 (1999 dollars)

Form: Corporate Self Bonding and Indemnity Agreement

Renewable Term: life of mine (@13 years)

ATTACHMENT

Mining and Reclamation Plan Summary  
MRP Revision, Mercur Canyon Project  
Marion Hill, Golden Gate and Sacramento Pits

Barrick Mercur Gold Mines, Inc.

ACT/045/017

Tooele County, Utah

December 4, 1986

During Operations:

1. Barrick will develop and operate three additional open pit gold mines in conjunction with their existing mill in Mercur Canyon. Existing permitted facilities include: the Mercur Mine and Mill, waste rock dumps, tailings pond, #1 and #2 dump leach pads, roads, transmission line, waterline, fences and security buildings.

Proposed disturbance includes: The mine pits, waste dump areas, topsoil storage sites, haul and access roads, dump leach pads, sediment ponds, surface drainage control dams, impoundments and diversions. All proposed disturbance will be limited to locations where Barrick has surface and mineral rights.

2. Topsoil stripping will be done within the mine pits, waste rock dumps and dump leach pad areas. Topsoil removal on steep topography (exceeding 35%) will be accomplished using a down-slope recovery method. Topsoil storage will be adjacent to the pits and dumps. Erosion control measures will be implemented to minimize topsoil losses.
3. Planned diversions and sediment ponds are sized to function as no-discharge impoundments. No off-site water discharges are anticipated from the operation under design conditions.
4. No major aquifers were encountered during extensive exploratory drilling periods. Minor amounts of perched water are expected and limited water may be intercepted if abandoned underground working are encountered. No toxic material zones were identified during the drilling program.
5. Existing mine and mill facilities will be used to process the ore. Sub-ore will be processed in the dump leach operations. Development and production of the first mine pit will coincide with the exhaustion of ore in the Mercur Mine pit. Pits two and three will follow this development sequence.
6. Development waste from the Sacramento pit will be dumped into the exhausted Mercur Pit. Waste rock from the Golden Gate and east half of the Marion Hill Pits will be placed in the lower Meadow Canyon. This fill has been designed to serve as a water supply reservoir. This impounded water will be used for dust suppression on mine and access roads and as a supply for local wildlife and livestock.



7. Some areas of mine disturbance will be reclaimed prior to final closure of the minesite (contemporaneous reclamation).

Following Operations:

The operator will implement the following reclamation plan upon termination of all mining activities associated with the Mercur Canyon Project:

1. Salvageable equipment will be dismantled and sold, surface structures will be razed, foundations, parking and driving surfaces will be broken up, removed and/or buried. Disturbed areas will be stabilized, regraded, and sloped to conform with the surrounding site topography to the extent practicable.
2. The regraded and topsoiled disturbed areas will be revegetated with a seed mix which has been developed for this mine site. A test plot program began in 1985 to gather site specific data on the proposed species for seeding and planting at Mercur. In addition, large scale plantings have become established on topsoil storage piles, waste rock dump slopes and other areas retired from active mine operations. Results from these plantings and the ongoing test plot revegetation programs will be used to fine tune the final revegetation program. Disturbed areas will be reclaimed with native and introduced vegetative species best suited to the elevation and climate during the fall season.
3. Standard agronomic practices will be used to prepare the seedbed for drill, broadcast, or hydro-seeding. Appropriate rates of fertilizer and mulch will be applied based upon plant and soil needs.

Variances Granted (with conditions):

M-10(3) Impoundments

The Division has granted a variance to postpone submission of final design information and ultimate resolution for any impounded water which may exist in the mined pits until mining operations cease. The final designs and determination of the location and conditions of the pit impoundments cannot be accurately determined until the pits have achieved their economic limits.

Based upon final configuration of the pits or other impoundments remaining upon completion of mining operations, plans may be required for construction and/or mitigation to provide for the general health and safety of the public, to provide or prevent access of wildlife to waters impounded in the pits, or other such requirements to make the area suitable for the post mining land use.

M-10(5) Highwalls

The Division has granted a variance regarding pit slope requirements of the mining operation. Upon cessation of mining operations, the Operator shall submit a complete surface contour map of the affected mine site area. Subject to review of this drawing, the Division shall determine whether or not additional stability analysis will be required. In the event the final configuration and condition of the pit slopes differ significantly from those proposed in the MRP, the Division shall require Mercur to submit further stability analysis to indicate mass stability of the pit slopes. In the event that conditions of the pit slopes do not differ significantly upon cessation of mining operations, no additional analysis will be required.

M-10(7) Roads & Pads

The Division has granted a variance to this regulation based upon the premise that the main county road will be retained for public use following mine closure.

8946R, 46-48